

Remarks

Reconsideration is respectfully requested. Claims 1, 3-10, 12-15, 17-24, and 26-34 are in the case. All claims stand rejected.

In the Specification

Paragraph [0021] has been amended to clarify features of various embodiments in accordance with the invention. As discussed below the applicant has amended FIG. 3 of drawings. Various reference numerals have been added to paragraph [0021] to aid the reader. No new matter has been added.

In the Drawings

The Examiner has objected to the drawings under 37§ CFR 1.83(a) stating the drawings must show every feature of the invention specified in the claims. The Applicant submits herewith a replacement drawing sheet including edits to FIG. 3 which adds various solid and hidden lines to clarify various edges of elements already present. In particular the edges of the support members, now identified with reference numerals 325 and 326, have been made easier to see. No new matter has been added.

Claim Amendments

No claims have been amended.

Claim Rejections – 35 USC § 103(a)

The Examiner has rejected claims 1, 3, 6, 8-10, 12-15, 17, 20, 22-30 and 33-34 under 35§ USC 103(a) as being unpatentable over Perazzo U.S. Patent No. 6,813,152 in view of Chen et al. U.S. Patent No. 6,592,327 (hereinafter Chen). Applicant respectfully traverses.

Perazzo

Perazzo teaches a method for improving airflow by offsetting fans within a fan module. According to Perazzo, offsetting the fans provides “an open area 26 behind fan

14 through which airflow fan 14 can continue in the event of failure of fan 16." Column 4, lines 47-49. Perazzo's objective is to keep a disabled fan from obstructing the flow of other fans in a module.

Chen

Chen teaches a HOT SWAP FAN MODULE (title) wherein plastic moldings 206 are secured to "two sides 212 of a commercially sold fan 204." (Col. 2, line 48 & FIG. 1). Chen's modules each comprise a single fan with the plastic molding. Multiple modules are held in an array in a fixed frame. "FIG. 3 is a three-dimensional view schematically illustrating eight hot swap fan modules ... the hot swap fan modules are installed into a fixed frame module 202. The fixed frame module 202 comprises eight fixed frames, wherein each of the frames has at least one guide rail 232 for guiding each [of] the hot swap fan module[s] when the hot swap fan module is installed into or pulled out of the fixed frame." (Col. 3, line 14-22).

Chen's fan modules fit snugly within the frame (FIG. 3). It is clear that Chen's arrangement does not provide any open areas behind any fans which is required to comply with Perazzo's intended purpose. In addition, Chen's fans are completely aligned with one another and fit within a close-fitting frame. Air from a first fan would not be able to pass around a second fan in line with the first fan if the second fan were to stop working. To modify Perazzo with Chen's teachings would render Perazzo's device unsatisfactory for Perazzo's intended purpose.

Claim 1 reads as follows:

1. A modular platform cooling apparatus, comprising:
 - at least one plenum associated with the apparatus; and
 - a first and a second fan module arranged in a side by side relationship configured to removably and independently engage the plenum, each having first and second spaced apart side panels, and each being designed to direct an airflow through a bottom of the first and second fan modules and out a respective rear portion of the first and second fan modules, and each including a plurality of fans arranged in a matrix array of 2xN fans positioned in a N-across by N-deep

in-plane relationship wherein N fans are positioned substantially behind N other of the 2xN fans, where N is an integer equal to or greater than 2; and

first and second support members each coupled at opposite ends thereof to the respective first and second side panels wherein the first support member is adapted to support the N fans positioned substantially behind the N other of the 2xN fans, and the second support member is adapted to support the other of the 2xN fans.

And Claim 15 reads as follows:

15. A modular platform, comprising:
- a plurality of modular platform boards;
 - at least one plenum coupled to the modular platform; and
 - a first and a second fan module arranged in a side by side relationship configured to removably and independently engage the plenum, each having first and second spaced apart side panels, and each being designed to direct an airflow through a bottom of the first and second fan modules and out a respective rear portion of the first and second fan modules, and each including a plurality of fans arranged in a matrix array of 2xN fans positioned in a N-across by N-deep in-plane relationship wherein N fans are positioned substantially behind N other of the 2xN fans, where N is an integer equal to or greater than 2; and
- first and second support members each coupled at opposite ends thereof to the respective first and second side panels wherein the first support member is adapted to support the N fans positioned substantially behind the N other of the 2xN fans, and the second support member is adapted to support the other of the 2xN fans.

Respectfully, to reject the claims in an application under Section 103 the Examiner's analysis must comply with the obviousness analysis required by Section 103 as interpreted by the Court. It is well settled that in obviousness rejections, the Examiner is to:

- 1) view the invention as a whole,
- 2) identify the difference with the prior art,
- 3) identify those of ordinary skill in the art, and
- 4) determine whether those of ordinary skill in the art will be motivated to make the modification to the prior art to arrive at the claimed invention.

For at least the reason that one skilled in the art would lack the motivation to make the Examiner's proposed modification to the Perazzo device the claims should be allowed.

There is no suggestion provided in the reference that would motivate one skilled in the art to modify the references, taken alone or together, to arrive at applicant's invention as claimed. If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984) (See MPEP 2143.01 V.)

The Examiner applies Chen to allegedly overcome the shortcomings of Perazzo. The Examiner state starting at the end of page 3 of the action:

"Perazzo fails to teach a fan module with a plurality of fans arranged in a matrix array of 2xN fans and a first and second support members. Chen et al. teach a fan module (see Fig. 3) with a plurality of fans (#204) arranged in matrix of 2xN fans (see Fig. 3) positioned in a N-across by N-deep in-plane relationship wherein N fans are positioned substantially behind N other of the 2xN fans"

To be clear, Chen does not teach a fan module with multiple fans, but as stated, instead teaches multiple fan modules (each consisting of a single fan) adapted to be held in a fixed frame. Chen calls his individual fans "hot swap fan modules 218". Also as stated, plastic moldings 206 are provided to allow the fan modules to be held in the fixed frame.

Essentially what the Examiner is proposing is putting Chan's matrix of fans, as held in Chan's fixed frame, into Perrazzo's fan module. If one were to try this, Perazzo's device would be unsatisfactory for its intended purpose because if one of Chan's fans stopped working the nonworking fan would impede the flow through Perazzo's module. Therefore, there can be no motivation to modify Perazzo the way the Examiner suggests. Perazzo's intended purpose is to provide a system "to operate indefinitely with a single fan failure" (Col. 2, lines 52-53) by providing fans which are offset from one

another. Therefore, claims 1 and 15 are not anticipated by the references. Accordingly, applicant respectfully requests the Examiner reconsider and allow claims 1 and 15.

Claims 3, 6, 8-19, 12-14, 17, 20, 22-30, and 33-34 depend from and include all of the limitations of respective base claims 1 and 15. Therefore, claims 3, 6, 8-19, 12-14, 17, 20, 22-30 and 33-34 should also be allowable. Allowance is respectfully requested.

The Examiner has rejected claims 4 and 18 under 35 USC § 103(a) as being unpatentable over Perazzo U.S. Patent No. 6,813,152, in view of Lin et al. U.S. Patent No. 6,752,587, as applied and further in view of Yoshikawa U.S. Patent No. 6,222,729. Applicant respectfully traverses. At least by virtue of their direct or indirect dependence on claims 1 or 15, claims 4 and 18 should be found allowable. Reconsideration of the Examiner's rejection and allowance of the claims is respectfully requested.

The Examiner has rejected claims 5 and 19 under 35 USC § 103(a) as being unpatentable over Perazzo U.S. Patent No. 6,813,152, in view of Lin et al. U.S. Patent No. 6,752,587, as applied and further in view of Dent U.S. Patent No. 6,537,019. Applicant respectfully traverses. At least by virtue of their direct or indirect dependence on claims 1 or 15, claims 5 and 19 should be found allowable. Reconsideration of the Examiner's rejection and allowance of the claims is respectfully requested.

The Examiner has rejected claims 7 and 21 under 35 USC § 103(a) as being unpatentable over Perazzo U.S. Patent No. 6,813,152, in view of Lin et al. U.S. Patent No. 6,752,587, as applied and further in view of Houdek U.S. Patent No. 6,406,257. Applicant respectfully traverses. At least by virtue of their direct or indirect dependence on claims 1 or 15, claims 7 and 21 should be found allowable. Reconsideration of the Examiner's rejection and allowance of the claims is respectfully requested.

The Examiner has rejected claims 31 and 32 under 35 USC § 103(a) as being unpatentable over Perazzo U.S. Patent No. 6,813,152, in view of Lin et al. U.S. Patent No. 6,752,587, as applied in view of Negishi U.S. Patent No. 6,421,238. Applicant respectfully traverses. At least by virtue of their direct or indirect dependence on claims

1 or 15, claims 31 and 32 should be found allowable. Reconsideration of the Examiner's rejection and allowance of the claim is respectfully requested.

Conclusion

Applicant submits all the claims in the present application, specifically claims 1, 3-10, 12-15, 17-24, and 26-34 are in condition for allowance. Reconsideration of the Examiner's objections and rejections, and issuance of a Notice of Allowance is respectfully requested.

If the Examiner has any questions, he is invited to contact the undersigned at (503) 796-2496.

The Commissioner is hereby authorized to charge shortages or credit overpayments to Deposit Account No. 500393.

Respectfully submitted,
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